A MANAGEMENT GUIDE
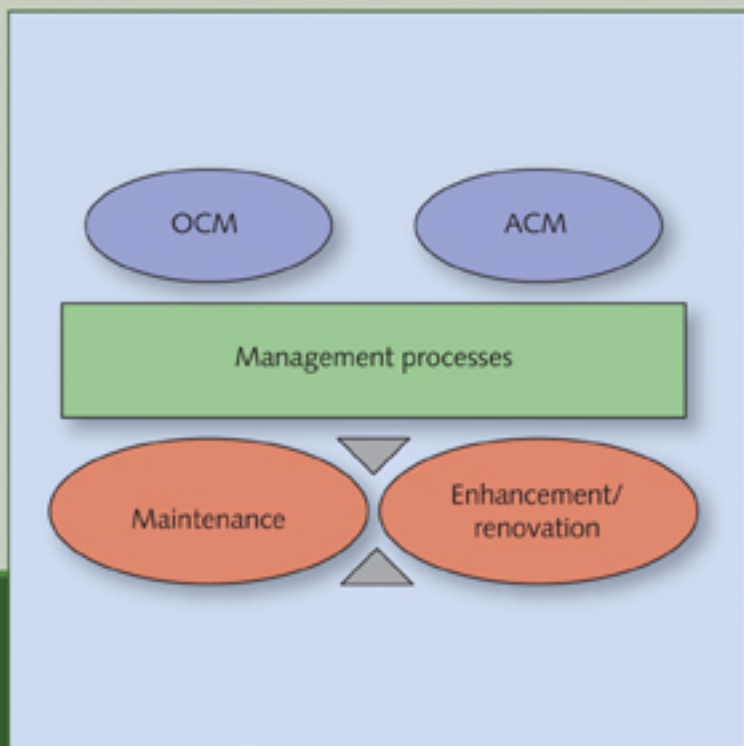
ASL

Application Services Library

2nd edition

ASL – A Management Guide

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ASL
A Management Guide

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Van Haren
PUBLISHING

Preface

Information systems have been developed, managed and maintained for decades. Every application management organization has developed its own methods over the years, but so far little serious effort has been made to maintain and control the application management processes. This is surprising given that application management accounts for a large proportion of IT expenditure. Standard work processes often lead to cost reductions. It is therefore sensible, and less expensive, to benefit from the experiences of others.

Fortunately, the tide has changed in recent years and structural consideration is now given to this subject. This has resulted in a process framework and underlying *best practices* for application management (i.e. maintenance and control, enhancement and renovation of applications). This framework is called ASL (*Application Services Library*) and is the only public domain application management standard in the world. The framework has been available for several years, and describes all the relevant processes that play a role in application management and maintenance.

By placing the Application Services Library in the public domain, both internal and external organizations can achieve maximum benefit from ASL in the standardization of the setting up of application management, renewal and maintenance through the uniformity of clear communication. Cost reductions and quality improvements in the services are the remarkable results of ASL implementation. The ASL Foundation will, among other things, be promoting ASL through advertising activities and knowledge bank developments as the de facto standard for application management. More information is available on the website: www.aslfoundation.org.

The objective of this handy book is to provide a pleasant, accessible introduction to application management and the ASL standard. It was written for business managers who are involved in information technology, IT managers, IT consultants and students and other interested parties. This *management guide* introduces the basic concepts through realistic situations that we might all encounter, involving a fictitious service provider, VGK.

The book is complemented by a number of annexes in which the reader will find references for further study. But if readers also wish to proceed with ASL, all the necessary references are provided, including the knowledge touched on via the ASL Foundation.

I believe Remko and Yvette have succeeded in making the material very readable and accessible despite the sometimes complex situations within the area of application management. The ASL Foundation is very fortunate that this book gives an excellent impression of the field of application management and ASL in particular. This *management guide* is not intended as a reference, a textbook or checklist, but as an accessible introduction to ASL.

I would like to thank everybody who has contributed to this *management guide*, particularly Remko and Yvette, the authors, as well as the reviewers Machteld Meijer, Mark Smalley, Pim Geels, Louis van Hemmen, Dick Costeris and Bert Franken.

I hope that you will become as inspired by ASL as many before you and that you will be able to benefit from it.

Bilthoven, June 2006
Gert J. van Heun, Managing Director ASL Foundation

Contents

Application management and ASL

1.1 Introduction

This chapter deals with the ASL framework, the domain for which it was developed, the environment in which application management operates and relations with other domains. It demonstrates the importance of good application management and thus also ASL's raison d'être.

1.2 What is ASL?

ASL, Application Services Library is a framework with supporting best practices for designing and carrying out application management. There are very many methodologies supporting all sorts of IT management and IT service management. Application management has, however, received little consideration over the years, in contrast to, for example, system development and infrastructure management. Application Services Library claims to bridge this gap.

1.3 What does ASL include?

Origins
The ASL framework is rooted in practice. Over the years the knowledge and best practices of ASL have taken shape within one of the biggest IT providers in Europe. In 2001, they handed over management of the ASL framework and library to the *ASL Foundation*. Within the Foundation, a number of large and smaller organizations actively contribute to the development and building of the framework and underlying best practices. From the start, the standard has developed independently. The Foundation watches over the accessibility, independence, quality, usability and level of the library. ASL is witnessing healthy growth and acceptance internationally.

Library

ASL has a library consisting of:

- generic descriptions of all ASL processes including the input and output of the processes, the activities within the processes and the mutual relations between the processes and the roles of those involved;
- templates for important documents such as annual plans, management plans, service level agreements, dossiers with agreements and procedures, etc;
- a (standard) set of agreements for reports, with examples of the results to be used (metrics) in figures;
- checklists and other forms of best practices;
- a self assessment for determining the maturity of the processes.

The library's best practices are available and accessible to everyone via the website: www.aslfoundation.org.

1.4   What is application management?

Application management ensures the maintenance of the application programmes and databanks. In other words, application management includes management adjusting and development of applications. This involves tasks such as programming, developing, testing, management of the applications and various other related activities.

Application management and system development

Such activities are also carried out within system development, involving the construction of new information systems/applications. However, in recent decades, the difference between system development and system maintenance (within application management) has gradually disappeared and the processes of constructing and managing information systems have become more and more integrated.

New functions are also being created for system maintenance. The extent of some maintenance cycles is similar to that of completely new construction, with significant segments often replaced or rebuilt. Such maintenance is largely equal to system development, with new system construction taking place within large existing systems. An example of such activity might be the opening up of back office applications, with little or no new material, and instead, the functionality and data organization from the existing systems being the decisive element in the new system.

Application management becomes integrated
Many organizations may have a department called 'System Development'. However, it is more likely that such departments mainly carry out maintenance in the widest sense of the term. ASL is specifically aimed at this sort of department or business.

1.5   Application management as a strategic factor

Many managers and users estimate that their existing systems will last for between three and seven years. In reality, systems stay in use a lot longer, sometimes for thirty years. The replacement of large and complex systems – that are also often critical for the business process – is risky and expensive. Organizations often don't have money allocated in the correct budget, don't have enough money left over, or don't dare entertain the idea of completely new systems given the high risk. This means that the need to innovate grows from within the existing situation. This is a realistic approach, as information processes are relatively stable. The functionality of information systems changes less significantly than is often imagined. Practice shows that, generally, the functionality of the information provision in an organization over five years will retain eighty per cent or more of its current functionality, and many new information systems that replace the existing ones will actually overlap by at least eighty per cent in their functionality and detail. There are often also only limited changes in the business processes of an information-intensive organization. The setting up of an organization is usually the element that is most subject to change. This is confirmed by the longevity of many information systems.

The quality of information provision determines the competitive position
Consequently, this further demonstrates the need for careful implementation when specifying changes to the information provision, in order to ensure a good and stable basis for the future. The quality of the existing information provision is decisive for an organization's competitive position. The extent to which certain systems can adapt will decide the ease with which an organization can bring products onto the market. The accuracy with which existing information provision is improved is, therefore, very important, as the creation of new information systems is very expensive, takes a long time and is very risky.
An organization is unlikely to be competitive with a system of information provision that has been in place for perhaps five years, unless it can adapt and develop. A good starting point for the existing information system is therefore important, particularly

if the information provision is indispensable for the business process. However, often application management organizations and management themselves do not understand this. People may only look one year ahead, following the budget cycle. Whilst this is understandable from a historical perspective and with regard to the management organization, it is changing with the market demands. Application management organizations must now deliver a good service, but also with a careful eye to the future, as successful business is dependent upon this.

1.6 The application management environment

Application management in the service environment
Application never works on its own but always in an environment where it deals with technical infrastructure management and business information (systems) management. M. Looijen and G. Deelen developed the triple model of information systems management. They distinguished between application management, technical infrastructure management and business information (systems) management.
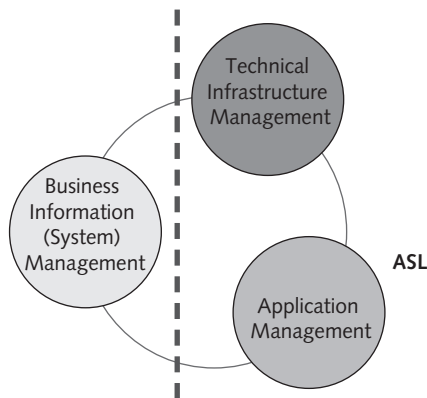

Figure 1 *Triple management model*

Application management and technical infrastructure management
Technical management is responsible for maintaining the operation of the information system, consisting of equipment, software and data collections that must be continually available for use. In practice, this mainly focuses on network management, office automation, management of computer centres, servers, etc. – basically management of the technical infrastructure. ITIL is often used for designing the processes.

Technical or infrastructure management is an important part of application management, as applications cannot work without infrastructures. Infrastructure management ensures that:

- the correct versions are on the infrastructure;
- the infrastructure works;
- the information systems are started up or can be started up and
- there are sufficient infrastructure resources.

Infrastructure management alone is not enough for the adequate operation of information systems. Application management is also necessary. The way in which the tables in an information system are designed or adapted, the structure of the information system, and the way in which the software is set up significantly influence the performance and reliability of the information system. Processing problems which appear to be connected with infrastructure may also be caused by application management. Problems cannot therefore always be solved by technical infrastructure management. Experience demonstrates that a significant part of the work of application management is aimed at supporting, controlling and adjusting system usage. Therefore, application management is not just maintenance but also really management.

In order to do this well, application management needs information on the use of infrastructure and resources. This comes from technical infrastructure management. Application management and technical infrastructure management must, therefore, work well together and agree with each other to ensure good and manageable processing.

Application management and business information (systems) management
As well as technical infrastructure management and application management, there is business information (systems) management. Business information (systems) management is responsible for maintaining the functionality of the information provision on behalf of the user organization. Thus, business information (systems) management actually acts as the owner and principal of the information provision.

In the case of larger information systems, business information (systems) management always works closely with application management. In smaller organizations, the dif-

ference between application management and business information (systems) management is often more difficult to define. Further professionalism clarifies this distinction. Between application management and business information (systems) management, there is a principal-contractor relationship.

Business information (systems) management decides what functionality must be built up and what criteria this must satisfy, and application management carries out this functionality.

Greater complexity on control

Nowadays, information provision in most larger organizations is very complex: with several applications, various technology alongside one another, various types of services, several suppliers and a complex management organization. The control of the information provision is difficult for various reasons.

There is no clear and integral control of the information provision by the organization, the business or the user organization, but there are several places where control is exercised. For example, the Finance Department will often control the financial information provision while the HR Department controls the wage processing and personnel information provision. There is, therefore, no clear principal for the overall information provision in the user organization. This situation is a logical consequence of the power relations within the organization.

In the past, there were often many dealings with tailor-made services and IT services that were clearly delivered to one client/user organization. This lack of ambiguity is no longer so obvious today. Infrastructures are regularly shared with others and the use of software packages, components or other forms of shared or re-used software has become the norm. This means that a client or user organization can less effectively control the functionality of a solution because the supplier has to take account of the interests of several clients. Therefore an IT provider is less easy for a client to control, and control takes place in the opposite direction with the IT provider starting to exercise more control over the client.

In the past, it was unusual to deal with multiple suppliers when carrying out a service. While in the past, it was usual to work with an in-house IT organization (including computer centre) and a supplier for infrastructure resources (including development environments). Today technologies, services and software solutions are obtained from a range of suppliers.

IT services by chains

These developments lead to chains of services and combinations of servers. In some types of service, business information (systems) management can control the IT provider, such as in the case of tailor-made services whereby business information (sys-

tems) management is the system owner and decides what form the functionality will take. In other cases, business information (systems) management is controlled more by application management or technical infrastructure management, as with the use of packages where the functionality is mainly determined by the supplier.

The combined action between business information (systems) management, technical infrastructure management and application management is different in each case. No basic model or standard process is possible. This means processes such as *Service Level Management* within ASL and *Contract Management* and the *Managed Supplier Relations Process* within BiSL (the framework for business information (systems) management including information management) become more important in the future. These processes decide how the service in a part of the information provision is built up, which forms of co-operation are created and how these are structured, which agreements will apply, and which control model will be used for the provision of services.

The service team

In order to make services manageable for clients business information (systems) management) and suppliers (application management and technical infrastructure management), there is a service team concept. A service team is a (virtual or real) entity that acts as an integral service provider for a defined service in the area of information provision. This means that the client has a clear point of contact for that service delivery. This concept works if the following conditions are fulfilled:

- A service team must also have a clear point of contact with complete authority from the user or client organization;
- Mechanisms and resources must be created towards which a service team can guide 'subcontractors';
- Between the various parties in the service team, there must be clear service interfaces with well established agreements and responsibility levels;
- There should be mutual respect for the various parties carrying out the services, including the subcontractors;
- Finally, the services are carried out over a longer period.

As previously discussed, a single 'deciding party' is normally not sufficient for information provision within a user or client organization. There are nearly always several decision-makers; this may include a decision-maker for infrastructure (workplaces, telecom), the financial information provision, the insurance systems with an insurer, the life assurance systems for an insurer, etc. This situation makes it nearly impossible to carry out integral IT services, simply because there is no integral IT demand.
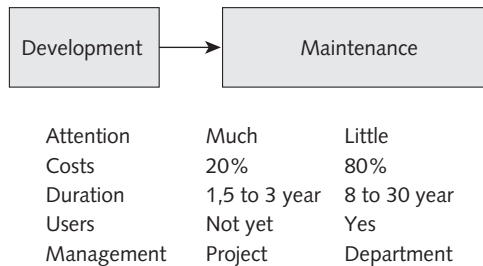
The ASL framework

2.1 Introduction

In the past, the emphasis was mostly on systems development, rather than on management, maintenance and enhancement of information systems and applications. Figure 2 illustrates the dangers of this, as most of the costs are incurred during the maintenance and enhancement stages. Fortunately, many organizations are now slowly shifting their emphasis. ASL can support this by providing a thorough and effective method.

Development		Maintenance

Attention	Much	Little
Costs	20%	80%
Duration	1,5 to 3 year	8 to 30 year
Users	Not yet	Yes
Management	Project	Department

Figure 2 *A comparison between development and maintenance*

The ASL framework has six process clusters, at three levels (operations, management and strategy), as shown in Figure 3. The six clusters will be discussed in more detail below.
In this *management guide,* we will often refer to information systems and we use this term as a synonym for applications although it is obviously a much broader term.
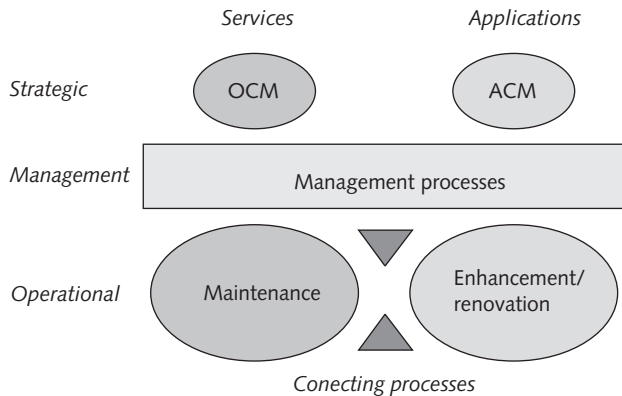
Figure 3 *The ASL model*

2.2 Operational processes

Maintenance
Information systems are created and enhanced in order to be used. This means that they are installed on one or more computer systems and are then started up and run many times, over a period of years, for the benefit of the users in the organization. The application management organization contributes to keeping the applications up and running. Within ASL, these activities are known as the maintenance activities of application management. Although the importance of these activities is often underestimated they are, in fact, essential: if the information system does not work it is quite likely that the whole user organization will grind to a halt.

For this reason, processes such as *Continuity Management, Incident Management, Capacity Management, Availability Management* and *Configuration Management* have a significant and important impact on the perceived quality.
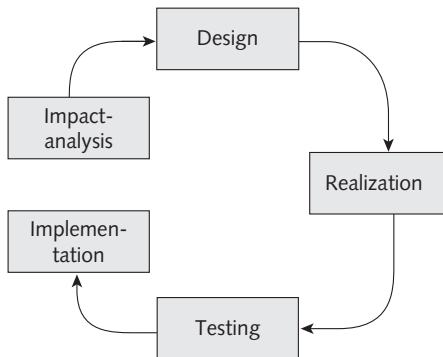
Enhancement and renovation
The organizations for which the information systems were originally developed are likely to change. Consequently, their business processes will change and the information systems supporting these processes will have to adapt accordingly. This means that the systems need enhancement (others may refer to this activity as 'maintenance').

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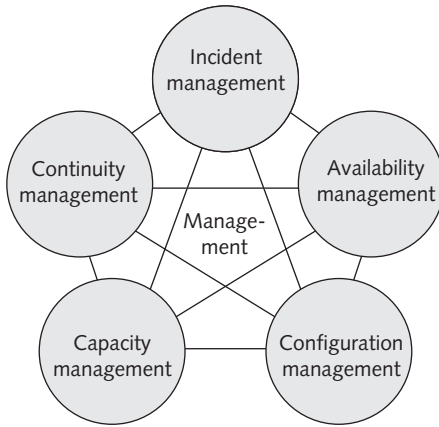
Figure 4 *Maintenance processes*

Both the scope and nature of enhancement can cover a wide range of options. In some cases the changes to the application will be very minor, such as changes to the screen design or report formats of the information system. However, some changes will be so far-reaching that a large part of the information system will have to be modified. Such a change may amount to a large percentage of the original investment or initial development cost of the information system.

Figure 5 *The enhancement and renovation processes*

Most of the investments made during the life of an application relate to enhancement and are required for processes such as impact analysis, design, realization, testing and implementation.

2.3   Connecting processes

There are links between the *Enhancement and Renovation* process and the *Maintenance* processes. In fact, they will often overlap with each other, hence there are processes to co-ordinate them: the connecting processes. In this context, the connecting processes are *Change Management* and *Software Control and Distribution*.

2.4   Management processes

User organizations need the application management process to be controlled and managed. They want to know what is happening, they want controlled costs, completion dates and agreements. This is why ASL includes the Management processes.

These are *Planning and Control*, *Cost Management*, *Service Level Management* and *Quality Management*. These processes control both the *Maintenance* processes and the Connecting processes and the *Enhancement and Renovation* processes. This is important as it ensures that the products of *Enhancement and Renovation* are not simply 'thrown over the fence' to *Maintenance*. This approach also ensures that maintenance is prepared effectively, during the enhancement stage.

Planning and control	Cost management	Quality management	Service level management

Figure 6 *The management processes*

2.5 Strategic processes

Applications Cycle Management (ACM)
One of the issues in maintenance and application management is that it is difficult to take a long-term view (e.g. five years). This is unfortunate, as over eighty per cent of applications will still be routinely used in five years time. *ACM, Applications Cycle Management*, is the cluster of processes used to develop a vision and policy for the future of the applications and the provision of information. This is done in close consultation with business information (system) management, which sets the direction of the provision of information to the user organization) and technical infrastructure management.
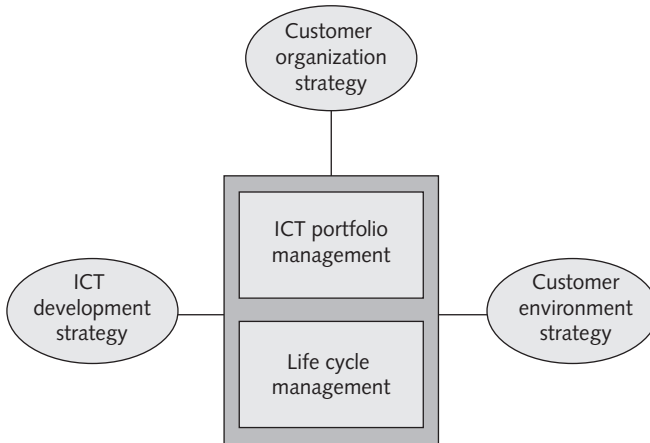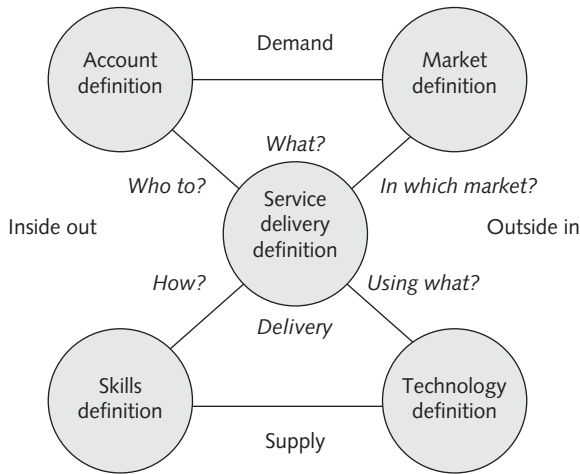

Figure 7 *The ACM processes*

The objective is to ensure that in another three to five years the applications will still adequately support the business processes of the user organization, and to interpret their requirements in terms of pragmatic and feasible improvements or innovation of the information systems.

Organization Cycle Management (OCM)
It is not only the information systems and applications, which change in line with changing requirements, the application management organization itself will also have to adapt. This is often a major weakness in application management and infrastructure management organizations.

Figure 8 *OCM processes*

This is the main reason that ASL includes *OCM, Organization Cycle Management,* which is responsible for innovation in the application management organization. This includes the processes *Market Definition, Account Definition, Skills Definition, Technology Definition* and *Service Delivery Definition.*

This group of processes defines the policies that the application management organization is going to implement. The policies are then developed in terms of specific actions, e.g. in the fields of competence development, client contacts, technology innovation and the approach to the market.

There is a fundamental difference between *OCM* and *ACM*: *ACM* is governed by the user organization and *OCM* by the application management organization. In other words: 'What information does the client want?' and 'What services will we be providing?'.

2.6 The ASL framework

This results in the ASL framework overall looking like Figure 9. The processes in each cluster will be discussed in greater detail in the rest of this book.
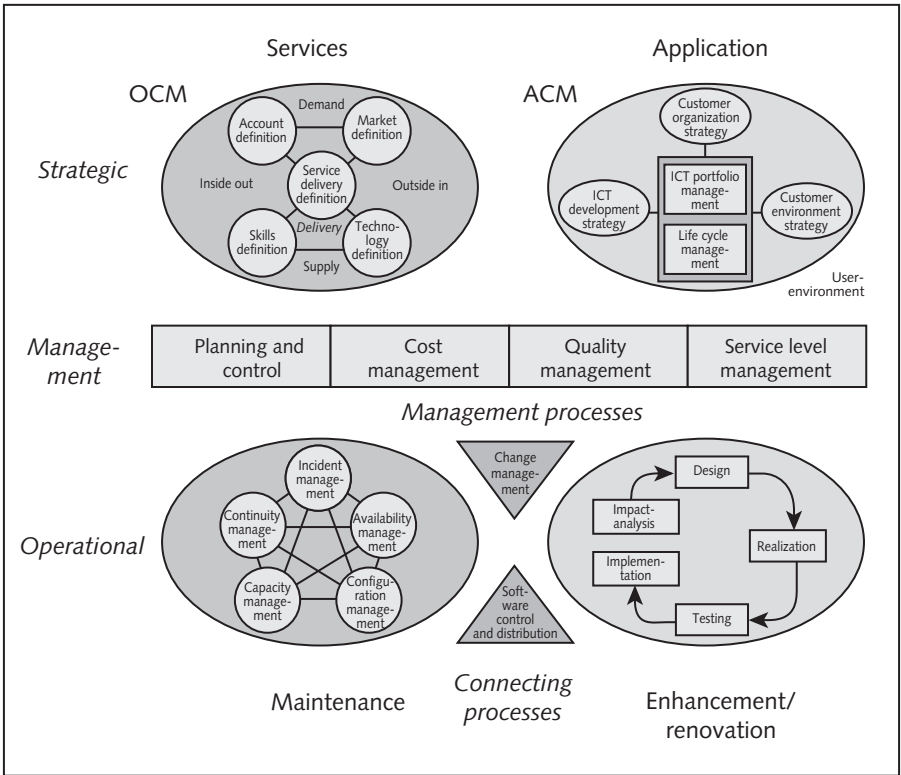
Figure 9 *The full ASL framework*